Preliminary Amendment
Based on PCT/JP2004/010214

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A method of producing a fluoropolymer,

wherein polymerization using a carboxylate ester bond-containing carboxylic acid derivative as a surfactant in an aqueous medium to give the fluoropolymer is conducted,

said carboxylate ester bond-containing carboxylic acid derivative has a carboxylate ester bond and –COOM (M representing H, NH_4, Li, Na or K),

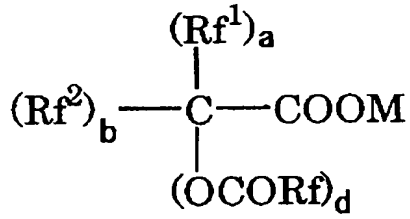
said carboxylate ester bond may optionally be substituted by fluorine atom.

2. (original): The method of producing a fluoropolymers according to Claim 1,

wherein the carboxylate ester bond is an acyloxy group represented by RfCOO- (Rf representing a fluoroalkyl group containing 1 to 20 carbon atoms or an ether oxygen-containing fluoroalkyl group containing 1 to 20 carbon atoms) or an alkoxycarbonyl group represented by RfOCO- (Rf being as defined above).

3. (currently amended): The method of producing a fluoropolymers according to Claim 1 ~~or~~ ~~2~~,

wherein the carboxylate ester bond-containing carboxylic acid derivative is a 2-acyloxycarboxylic acid derivative represented by the general formula (1):



$$(Rf^2)_b\text{—}C(\text{—}(Rf^1)_a)(\text{—}(OCORf)_d)\text{—}COOM \qquad (1)$$

wherein Rf^1 and Rf^2 are the same or different and each represents H, F, a fluoroalkyl group containing 1 to 20 carbon atoms or an ether oxygen-containing fluoroalkyl group containing 1 to 20 carbon atoms, a and b each represents an integer of 0 to 2 and d represents an integer of 1 to 3 provided that a, b and d satisfy the relation a + b + d = 3; Rf and M are as defined above, and Rf^1, Rf^2 and Rf are the same or different.

4. (currently amended): The method of producing a fluoropolymer according to Claim 1 ~~or 2~~,

wherein the carboxylate ester bond-containing carboxylic acid derivative is a dicarboxylic acid half ester (A) represented by the general formula (3):

$RfOCORf^5COOM$ (3)

wherein Rf^5 represents $-C_fH_{2f}-$ or $-C_gH_{2g-2}-$ (in which f represents an integer of 1 to 6 and g represents an integer of 2 to 6) and Rf and M are as defined above.

5. (currently amended): The method of producing a fluoropolymer according to Claim 1 ~~or 2~~,

wherein the carboxylate ester bond-containing carboxylic acid derivative is a dicarboxylic acid half ester (B) represented by the general formula (4):

$RfOCO(CH_2)_h\text{-}T\text{-}(CH_2)_i\text{-}COOM$ (4)

wherein T represents $-CRf^4=CH-$, $-CH=CRf^4-$ or $-CHRf^4-$ (in which Rf^4 represents F, a fluoroalkyl group containing 1 to 20 carbon atoms or an ether oxygen-containing fluoroalkyl

group containing 1 to 20 carbon atoms), h and i are the same or different and each represents an integer of 0 to 3, and Rf and M are as defined above.

6. (currently amended): The method of producing a fluoropolymer according to Claim 1, ~~2, 3, 4 or 5,~~

wherein a 0.1% (by mass) aqueous solution of the carboxylate ester bond-containing carboxylic acid derivative has a surface tension of 30 to 70 Nm/m as measured at 25°C by Wilhelmy method.

7. (currently amended): The method of producing a fluoropolymer according to Claim 1, ~~2, 3, 4, 5 or 6,~~

wherein the carboxylate ester bond-containing carboxylic acid derivative can generate a hydrolyzate upon hydrolysis,

the number of fluorine atom-bound carbon atoms in said hydrolyzate is not more than 6.

8. (original): The method of producing a fluoropolymer according to Claim 7,

wherein the number of fluorine atom-bound carbon atoms is not more than 4.

9. (currently amended): The method of producing a fluoropolymer according to Claim 1, ~~2, 3, 4, 5, 6, 7 or 8,~~

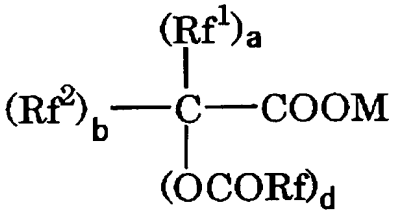
wherein the carboxylate ester bond-containing carboxylic acid derivative is added at a level of 0.0001 to 15% by mass of the aqueous medium.

10. (original): A fluoropolymer aqueous dispersion which comprises a particle comprising a fluoropolymer, a carboxylate ester bond-containing carboxylic acid derivative and an aqueous medium,

wherein said carboxylate ester bond-containing carboxylic acid derivative has a carboxylate ester bond and –COOM (M representing H, NH_4, Li, Na or K),

said carboxylate ester bond may optionally be substituted by fluorine atom.

11. (currently amended): : A 2-acyloxycarboxylic acid derivative which is represented by the general formula (1):



(1)

wherein Rf^1 and Rf^2 are the same or different and each represents H, F, a fluoroalkyl group containing 1 to 20 carbon atoms or an ether oxygen-containing fluoroalkyl group containing 1 to 20 carbon atoms, Rf represents a fluoroalkyl group containing 1 to 20 carbon atoms or an ether oxygen-containing fluoroalkyl group containing 1 to 20 carbon atoms, M represents H, ~~NH4~~NH_4, Li, Na or K, a and b each represents an integer of 0 to 2 and d represents an integer of 1 to 3 provided that a, b and d satisfy the relation a + b + d = 3; Rf^1, Rf^2 and Rf are the same or different.

12. (original): The 2-acyloxycarboxylic acid derivative according to Claim 11, wherein Rf^1 and Rf^2 are the same or different and each is

$A(CF_2)_j(CH_2)_p$-

wherein A represents H or F, j represents an integer of 1 to 6 and p represents an integer of 0 to 3.

13. (currently amended): The 2-acyloxycarboxylic acid derivative according to Claim 11 ~~or 12~~, wherein Rf is

$A(CF_2)_n(CH_2)_m$-

wherein A represents H or F, n represents an integer of 1 to 4 and m represents an integer of 0 to 3, or

$A(CF_2)_q[CFX\text{-}CF_2(CH_2)_rO]_tCFX$-

wherein X represents F or CF_3, q represents an integer of 0 to 3, r represents an integer of 0 to 2, t represents an integer of 1 to 3 and A is as defined above.

14. (original): The 2-acyloxycarboxylic acid derivative according to Claim 11, wherein Rf^1 and Rf^2 are the same or different and each is

$A(CF_2)_u$-

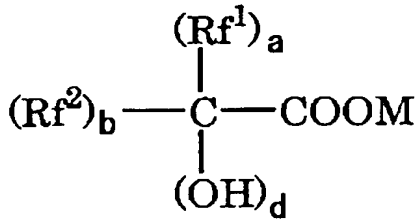
wherein A represents H or F and u represents an integer of 1 to 3, and Rf is

$A(CF_2)_w(CH_2)_y$-

wherein A is as defined above, w represents an integer of 2 to 4 and y represents an integer of 0 to 1.

15. (currently amended): A surfactant which comprises the 2-acyloxycarboxylic acid derivative according to Claim 11~~, 12, 13 or 14~~.

16. (currently amended): A method of producing a 2-acyloxycarboxylic acid derivative, which comprises producing the 2-acyloxycarboxylic acid according to Claim 11~~, 12, 13 or 14~~ by esterifying a 2-hydroxycarboxylic acid derivative represented by the general formula (5):



(5)

wherein Rf^1 and Rf^2 are the same or different and each represents H, F, a fluoroalkyl group containing 1 to 20 carbon atoms or an ether oxygen-containing fluoroalkyl group containing 1 to 20 carbon atoms, M represents H, NH_4, Li, Na or K, a and b each represents an integer of 0 to 2 and d represents an integer of 1 to 3 provided that a, b and d satisfy the relation a + b + d = 3, and an alkanoyl compound represented by the general formula (6):

RfCOZ (6)

wherein Rf represents a fluoroalkyl group containing 1 to 20 carbon atoms or an ether oxygen-containing fluoroalkyl group containing 1 to 20 carbon atoms, Z represents $-OM^1$ or Y (M^1 representing H, NH_4, Li, Na or K and Y representing F or Cl).